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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/846,846   | 04/30/2001  | Carl M. Panasik      | TI-32885            | 4980             |
| 23494  | 7590        | 08/23/2004           | EXAMINER            |                  |
| TEXAS INSTRUMENTS INCORPORATED<br>P O BOX 655474, M/S 3999<br>DALLAS, TX 75265 |             |                      | PERILLA, JASON M    |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2634                | 5                |

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/846,846

Applicant(s)

PANASIK ET AL.

Examiner

Jason M Perilla

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2-4/01 4-1/04</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. Claims 1-31 are pending in the instant application.

#### ***Information Disclosure Statement***

2. The information disclosure statements (IDS) submitted on April 30, 2001 (paper no. 2 in the file) and January 12, 2004 (paper no. 4 in the file) are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

#### ***Claim Objections***

3. Claims 6-8, 14, 20-22, and 28 are objected to because of the following informalities:

Regarding claims 6 and 20, "wherein analog baseband" should be replaced by "wherein said analog baseband" for the clarity of the claim language.

Claims 6-8, and 20-22 recite the limitation "said DSP". There is insufficient antecedent basis for this limitation in the claim.

Claims 9 and 10 recite the limitation "said RF interface". There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

#### ***Double Patenting***

4. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

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A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. Claim 29 is rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 24 of prior U.S. Patent No. 6489908 to Panasik et al (hereafter "Panasik"). This is a double patenting rejection.

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-3, 5, 15-17, 19, 23-25, 30 and 31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 5, 13-15, 17-20, 25, and 26, respectively, of Panasik. Although the conflicting claims are not identical, they are not patentably distinct from each other because the difference in the claimed subject matter would have been obvious to one having ordinary skill in the art.

Regarding claims 1-3 and 5, the instant application is related to a "wireless user terminal" while claims 1-3 and 5 of Panasik are related to a "wireless local loop". As broadly as claimed, it would have been obvious to one having ordinary skill in the art at

the time which the invention was made that a wireless user terminal could be substituted for a wireless local loop because a wireless local loop comprises a wireless user terminal. Claims 1-3 and 5 of the instant application are otherwise anticipated by claims 1-3 and 5, respectively, of Panasik.

Regarding claims 15-17, 19, 23, and 24, the instant application claims a "wireless user terminal" while the claims 13-15 and 17-19 of Panasik claim a "wireless local loop terminal". As broadly as claimed, it would have been obvious to one having ordinary skill in the art at the time which the invention was made that a wireless user terminal could be substituted for a wireless local loop terminal because a wireless local loop terminal comprises a wireless user terminal. Claims 15-17, 19, 23, and 24 of the instant application are otherwise anticipated by claims 13-15 and 17-19, respectively, of Panasik.

Regarding claim 25, the instant application claims, "an input of said modulator is coupled to an output of said RF interface and an output of said receiver is coupled to an input of said RF interface" while claim 20 of Panasik claims, "an input of said modulator is coupled to an output of said analog baseband and an output of said receiver is coupled to an input of said analog baseband." In both the inventions of the instant application and Panasik, the RF interface and the analog baseband are coupled together. Therefore, the limitations of the instant application are at least obvious in view of claim 20 of Panasik.

Regarding claim 30, the instant application is related to a "wireless user terminal" while claim 25 of Panasik is related to "customer premise equipment having radio

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frequency capability". As broadly as claimed, it would have been obvious to one having ordinary skill in the art at the time which the invention was made that a wireless user terminal could be substituted for customer premise equipment having radio frequency capability because customer premise equipment having radio frequency capability comprises a wireless user terminal. Claim 30 of the instant application is otherwise anticipated by claim 25 of Panasik.

Regarding claim 31, the instant application claims a "wireless user terminal" while claim 26 of Panasik claims a "wireless local loop terminal". As broadly as claimed, it would have been obvious to one having ordinary skill in the art at the time which the invention was made that a wireless user terminal could be substituted for a wireless local loop terminal because a wireless local loop terminal comprises a wireless user terminal. Claim 31 of the instant application is otherwise anticipated by claim 26 of Panasik.

8. Claims 4, 6-14, 18, 20-22, and 26-28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Panasik in view of Jambhekar et al (US 5742894; hereafter "Jambhekar").

Regarding claim 4, Panasik discloses the limitations of claim 1 as applied above. Panasik does not disclose the wireless user terminal of claim 1 being a cellular handset. However, Jambhekar teaches a wireless user terminal being a cellular handset (figs. 1 and 2). Jambhekar further teaches that cellular phone service is common and popular (col. 1, lines 15-50). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize a cellular handset as the

wireless user terminal as taught by Jambhekar in the system of Panasik because cellular handsets are common and popular among subscriber services.

Regarding claim 6, Panasik discloses the limitations of claim 1 as applied above. Panasik does not disclose that said analog baseband comprises an audio interface coupled to said DSP and to a speaker and a microphone. However, Jambhekar teaches a cellular handset (figs. 1 and 2) wherein an analog baseband comprises an audio interface (117) coupled to a DSP or processor (115) and to a speaker (123) and a microphone (121). Jambhekar further teaches that cellular phone service is common and popular (col. 1, lines 15-50). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize an analog baseband comprising an audio interface coupled to said DSP and to a speaker and a microphone as taught by Jambhekar in the system of Panasik because it would provide a method to provide an audible conversation between two users on a cellular handset.

Regarding claim 7, Panasik discloses the limitations of claim 1 as applied above. Panasik does not disclose that said analog baseband comprises an RF interface coupled to said DSP and to said RF section. However, Jambhekar teaches a cellular handset (figs. 1 and 2) wherein an analog baseband comprises an RF interface coupled to a DSP and to an RF section (fig. 1, conduit between the DSP 115 and the RF section 113). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize an analog baseband comprising an RF interface coupled to a DSP and to an RF section as taught by Jambhekar in the system of Panasik because it would allow communication between the DSP and the RF section.

Regarding claim 8, Panasik discloses the limitations of claim 1 as applied above. Panasik does not disclose that said analog baseband comprises an audio interface coupled to said DSP and to a speaker and a microphone and an RF interface coupled to said DSP and to said RF section. However, Jambhekar teaches a cellular handset (figs. 1 and 2) wherein an analog baseband comprises an audio interface (fig. 1, conduit between the DSP 115 and 121, 123) coupled to a DSP (115) and to a speaker (123) and a microphone (121) and an RF interface coupled to a DSP and to an RF section (fig. 1, conduit between the DSP 115 and the RF section 113). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize an analog baseband as an audio interface coupled to a DSP and to a speaker and a microphone and an RF interface coupled to said DSP and to said RF section as taught by Jambhekar in the system of Panasik because it would allow communication between the DSP and the RF section as well as communication between the DSP and the speaker and microphone.

Regarding claim 9, Panasik discloses the limitations of claim 1 as applied above. Panasik does not disclose that said RF section comprises a receiver coupling said RF interface to an antenna and to a power amplifier. However, Jambhekar teaches a cellular handset (figs. 1 and 2) wherein an RF section comprises a receiver (113) coupling an RF interface (inherently present) to an antenna (105) and to a power amplifier (inherently present). Because a cellular handset is designed for two way communication, it is obvious that the radio circuitry 113 contains a modulator for transmission as well as a de-modulator for the reception (receiver) of a signal.



Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize an RF section comprising a receiver coupling an RF interface to an antenna and to a power amplifier as taught by Jambhekar in the system of Panasik because it would enable wireless communication by connecting the RF section to an antenna.

Regarding claim 10, Panasik in view of Jambhekar disclose the limitations of claim 9 as applied above. Further, it is inherent that the RF section of Panasik in view of Jambhekar comprises a modulator coupling said RF interface to a power amplifier. A modulator coupling an RF section to a power amplifier is required for wireless communication as disclosed by Jambhekar. In figure 1 of Jambhekar, the modulator would be contained in the radio circuitry 113.

Regarding claim 11, Panasik in view of Jambhekar disclose the limitations of claim 10 as applied above. Further, it is inherent in the system of Panasik in view of Jambhekar that a synthesizer or oscillator would be coupled to the modulator and to the receiver. A local oscillator or a synthesizer is inherently required to perform modulation for the transmission of an RF signal as well as to perform de-modulation of an RF signal for reception.

Regarding claim 12, Panasik discloses the limitations of claim 1 as applied above. Panasik does not disclose the terminal including a user display and a keyboard coupled to said digital baseband. However, Jambhekar teaches a cellular handset (figs. 1 and 2) having a user display (119) and a keyboard (125) coupled to a digital baseband (115). Therefore, it would have been obvious to one having ordinary skill in

the art at the time which the invention was made to utilize a user display and keyboard as taught by Jambhekar in the system of Panasik because it would allow a user to apply input to the system and be able to take feedback from the system.

Regarding claim 13, Panasik discloses the limitations of claim 5 as applied above. Panasik does not disclose the terminal including a user display and a keyboard coupled to said MCU. However, Jambhekar teaches a cellular handset (figs. 1 and 2) having a user display (119) and a keyboard (125) coupled to an MCU (115). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize a user display and keyboard as taught by Jambhekar in the system of Panasik because it would allow a user to apply input to the system and be able to take feedback from the system.

Regarding claim 14, Panasik in view of Jambhekar disclose the limitations of claim 7. Further, it would have been obvious that the delta-sigma digital to analog converter would be located in the RF interface because the RF interface performs the digital to analog conversion for the cellular handset of Panasik in view of Jambhekar.

Regarding claim 18, Panasik discloses the limitations of claim 15 as applied above. Panasik does not disclose the RF enabled communications system of claim 15 being a cellular handset. However, Jambhekar teaches a wireless user terminal being a cellular handset (figs. 1 and 2). Jambhekar further teaches that cellular phone service is common and popular (col. 1, lines 15-50). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize a cellular handset as the wireless user terminal as taught by Jambhekar in the system of

Panasik because cellular handsets are common and popular among subscriber services.

Regarding claim 20, Panasik discloses the limitations of claim 15 as applied above. Panasik does not disclose that said analog baseband comprises an audio interface coupled to said DSP and to a speaker and a microphone. However, Jambhekar teaches a cellular handset (figs. 1 and 2) wherein an analog baseband comprises an audio interface (117) coupled to a DSP or processor (115) and to a speaker (123) and a microphone (121). Jambhekar further teaches that cellular phone service is common and popular (col. 1, lines 15-50). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize an analog baseband comprising an audio interface coupled to said DSP and to a speaker and a microphone as taught by Jambhekar in the system of Panasik because it would provide a method to provide an audible conversation between two users on a cellular handset.

Regarding claim 21, Panasik discloses the limitations of claim 15 as applied above. Panasik does not disclose that said analog baseband comprises an RF interface coupled to said DSP and to said RF section. However, Jambhekar teaches a cellular handset (figs. 1 and 2) wherein an analog baseband comprises an RF interface coupled to a DSP and to an RF section (fig. 1, conduit between the DSP 115 and the RF section 113). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize an analog baseband comprising an RF interface coupled to a DSP and to an RF section as taught by

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Jambhekar in the system of Panasik because it would allow communication between the DSP and the RF section.

Regarding claim 22, Panasik discloses the limitations of claim 15 as applied above. Panasik does not disclose that said analog baseband comprises an audio interface coupled to said DSP and to a speaker and a microphone and an RF interface coupled to said DSP and to said RF section. However, Jambhekar teaches a cellular handset (figs. 1 and 2) wherein an analog baseband comprises an audio interface (fig. 1, conduit between the DSP 115 and 121, 123) coupled to a DSP (115) and to a speaker (123) and a microphone (121) and an RF interface coupled to a DSP and to an RF section (fig. 1, conduit between the DSP 115 and the RF section 113). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize an analog baseband as an audio interface coupled to a DSP and to a speaker and a microphone and an RF interface coupled to said DSP and to said RF section as taught by Jambhekar in the system of Panasik because it would allow communication between the DSP and the RF section as well as communication between the DSP and the speaker and microphone.

Regarding claim 26, Panasik discloses the limitations of claim 15 as applied above. Panasik does not disclose the RF communications system including a user display and a keyboard coupled to said digital baseband. However, Jambhekar teaches a cellular handset (figs. 1 and 2) having a user display (119) and a keyboard (125) coupled to a digital baseband (115). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize a user

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display and keyboard as taught by Jambhekar in the system of Panasik because it would allow a user to apply input to the system and be able to take feedback from the system.

Regarding claim 27, Panasik discloses the limitations of claim 19 as applied above. Panasik does not disclose the RF communications system including a user display and a keyboard coupled to said MCU. However, Jambhekar teaches a cellular handset (figs. 1 and 2) having a user display (119) and a keyboard (125) coupled to an MCU (115). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize a user display and keyboard as taught by Jambhekar in the system of Panasik because it would allow a user to apply input to the system and be able to take feedback from the system.

Regarding claim 28, Panasik in view of Jambhekar disclose the limitations of claim 21. Further, it would have been obvious that the delta-sigma digital to analog converter would be located in the RF interface because the RF interface performs the digital to analog conversion for the cellular handset of Panasik in view of Jambhekar.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art not relied upon above is cited to show the current state of the art with respect to sigma-delta digital to analog conversion.

U.S. Pat. No. 6476746 to Viswanathan.

U.S. Pat. No. 5079551 to Kimura et al.

U.S. Pat. No. 6441761 to Viswanathan.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (703) 305-0374. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason M. Perilla  
August 10, 2004

jmp



CHIEH M. FAN  
PRIMARY EXAMINER